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C L A I M S

1. A biologically-degradable or bio-soluble glass fiber composition, characterized in that it comprises the following components expressed in percent by weight:
- $\text{SiO}_2$ : 61 to 66;
  - $\text{Al}_2\text{O}_3$ : 1.1 to 2.1;
  - $(\text{CaO}+\text{MgO})$ : higher than 9;
  - $(\text{Na}_2\text{O}+\text{K}_2\text{O})$ : higher than 18;
  - 10 -  $\text{B}_2\text{O}_3$ : 4 to 15;
  - $\text{P}_2\text{O}_5$ : 0 to 5;
  - $\text{SO}_3$ : 0 to 1;
  - $\text{Fe}_2\text{O}_3$ : 0 to 0.5;
  - Others: less than 2.
- 15 2. The composition as claimed in claim 1, characterized in that it comprises the following components expressed in percent by weight:
- $\text{SiO}_2$ : 61 to 66;
  - 20 -  $\text{Al}_2\text{O}_3$ : 1.1 to 2.1;
  - $\text{CaO}$ : 6 to 9;
  - $\text{MgO}$ : 0 to 5;
  - $(\text{Na}_2\text{O}+\text{K}_2\text{O})$ : higher than 18;
  - $\text{B}_2\text{O}_3$ : 4 to 15;
  - 25 -  $\text{P}_2\text{O}_5$ : 0 to 5;
  - $\text{SO}_3$ : 0 to 1;
  - $\text{Fe}_2\text{O}_3$ : 0 to 0.5;
  - Others: less than 2.
- 30 3. The composition as claimed in claim 1, characterized in that it comprises the following components expressed in percent by weight:
- $\text{SiO}_2$ : 61 to 66;
  - $\text{Al}_2\text{O}_3$ : 1.1 to 2.1;
  - 35 -  $(\text{CaO}+\text{MgO})$ : higher than 9;
  - $\text{Na}_2\text{O}$ : higher than 17.5, lower than or equal

- to 23;
- $K_2O$ : 0.6 to 2;
  - $B_2O_3$ : 4 to 15;
  - $P_2O_5$ : 0 to 5;
  - 5 -  $SO_3$ : 0 to 1;
  - $Fe_2O_3$ : 0 to 0.5;
  - Others: less than 2.

4. The composition as claimed in anyone of the preceding  
10 claims, characterized in that it comprises the following  
components expressed in percent by weight:

- $SiO_2$ : 61 to 66;
- $Al_2O_3$ : 1.1 to 2.1;
- $CaO$ : 6 to 9;
- 15 -  $MgO$ : 0 to 5;
- $Na_2O$ : higher than 17.5, lower than or equal  
to 23;
- $K_2O$ : 0.6 to 2;
- $B_2O_3$ : 4 to 15;
- 20 -  $P_2O_5$ : 0 to 5;
- $SO_3$ : 0 to 1;
- $Fe_2O_3$ : 0 to 0.5;
- Others: less than 2.

25 5. The composition as claimed in claim 4, characterized  
in that it comprises the following components expressed  
in percent by weight:

- $SiO_2$ : 61 to 66;
- $Al_2O_3$ : 1.1 to 1.80;
- 30 -  $(CaO+MgO)$ : higher than 9;
- $Na_2O$ : 17.50 to 18.50;
- $K_2O$ : 0.6 to 1;
- $B_2O_3$ : 5 to 15;
- $P_2O_5$ : 0 to 5;
- 35 -  $SO_3$ : 0 to 1;
- $Fe_2O_3$ : 0 to 0.5;

- Others: less than 2.

6. The composition as claimed in claim 5, characterized in that it comprises the following components expressed in percent by weight:

- $\text{SiO}_2$ : 61 to 66;
- $\text{Al}_2\text{O}_3$ : 1.1 to 1.25;
- $(\text{CaO}+\text{MgO})$ : higher than 9;
- $\text{Na}_2\text{O}$ : 17.50 to 18.50;
- 10 -  $\text{K}_2\text{O}$ : 0.6 to 1;
- $(\text{B}_2\text{O}_3+\text{P}_2\text{O}_5)$ : higher than 5;
- $\text{SO}_3$ : 0 to 1;
- $\text{Fe}_2\text{O}_3$ : 0 to 0.5;
- Others: less than 2.

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7. The composition as claimed in claim 6, characterized in that it comprises the following components expressed in percent by weight:

- $\text{SiO}_2$ : 61 to 66;
- 20 -  $\text{Al}_2\text{O}_3$ : 1.1 to 1.25;
- $(\text{CaO}+\text{MgO})$ : higher than 9;
- $\text{Na}_2\text{O}$ : 17.50 to 18.50;
- $\text{K}_2\text{O}$ : 0.6 to 1;
- $\text{B}_2\text{O}_3$ : higher than 5;
- 25 -  $\text{P}_2\text{O}_5$ : 0 to less than 0.1;
- $\text{SO}_3$ : 0 to 1;
- $\text{Fe}_2\text{O}_3$ : 0 to 0.5;
- Others: less than 2.

30 8. The composition as claimed in claim 7, characterized in that it comprises the following components expressed in percent by weight:

- $\text{SiO}_2$ : 61 to 66;
- $\text{Al}_2\text{O}_3$ : 1.1 to 1.25;
- 35 -  $(\text{CaO}+\text{MgO})$ : higher than 9;
- $\text{Na}_2\text{O}$ : 17.50 to 18.50;

- $K_2O$ : 0.6 to 1;
- $B_2O_3$ : higher than 5.5;
- $P_2O_5$ : 0 to less than 0.1;
- $SO_3$ : 0 to 1;
- 5 -  $Fe_2O_3$ : 0 to 0.5;
- Others: less than 2.

9. The composition as claimed in claim 6, characterized in that it comprises the following components expressed in percent by weight:

- $SiO_2$ : 61 to 66;
- $Al_2O_3$ : 1.1 to 1.25;
- $(CaO+MgO)$ : higher than 9;
- $Na_2O$ : 17.50 to 18.50;
- 15 -  $K_2O$ : 0.6 to 1;
- $B_2O_3$ : less than 5;
- $P_2O_5$ : 0.75 to 1.5;
- $SO_3$ : 0 to 1;
- $Fe_2O_3$ : 0 to 0.5;
- 20 - Others: less than 2.

10. The composition as claimed in claim 9, characterized in that it comprises the following components expressed in percent by weight:

- 25 -  $SiO_2$ : 61 to 66;
- $Al_2O_3$ : 1.1 to 1.25;
- $(CaO+MgO)$ : higher than 9;
- $Na_2O$ : 17.50 to 18.50;
- $K_2O$ : 0.6 to 1;
- 30 -  $B_2O_3$ : less than 4.5;
- $P_2O_5$ : 0.75 to 1.5;
- $SO_3$ : 0 to 1;
- $Fe_2O_3$ : 0 to 0.5;
- Others: less than 2.

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11. The composition as claimed in claim 5, characterized

in that it comprises the following components expressed in percent by weight:

- $\text{SiO}_2$ : 61 to 66;
- $\text{Al}_2\text{O}_3$ : 1.1 to 1.25;
- 5 -  $(\text{CaO}+\text{MgO})$ : higher than 9;
- $\text{Na}_2\text{O}$ : 17.50 to 18.50;
- $\text{K}_2\text{O}$ : 0.6 to 1;
- $\text{B}_2\text{O}_3$ : 5 to 15;
- $\text{P}_2\text{O}_5$ : 0 to 5;
- 10 -  $\text{SO}_3$ : 0.1 to 0,5;
- $\text{Fe}_2\text{O}_3$ : 0 to 0.5;
- Others: less than 2.

12. The composition as claimed in claim 5, characterized in that it comprises the following components expressed in percent by weight:

- $\text{SiO}_2$ : 61 to 66;
- $\text{Al}_2\text{O}_3$ : 1.1 to 1.25;
- $(\text{CaO}+\text{MgO})$ : higher than 9;
- 20 -  $\text{Na}_2\text{O}$ : 17.50 to 18.50;
- $\text{K}_2\text{O}$ : 0.6 to 1;
- $\text{B}_2\text{O}_3$ : 5 to 15;
- $\text{P}_2\text{O}_5$ : 0 to 5;
- $\text{SO}_3$ : 0 to 1;
- 25 -  $\text{Fe}_2\text{O}_3$ : 0.05 to 0.2;
- Others: less than 2.

13. The composition as claimed in claim 5, characterized in that it comprises the following components expressed in percent by weight:

- $\text{SiO}_2$ : 61 to 66;
- $\text{Al}_2\text{O}_3$ : 1.6 to 1.8;
- $(\text{CaO}+\text{MgO})$ : higher than 9;
- $\text{MgO}$ : higher than 3;
- 35 -  $\text{MgO}$ : preferably higher than 3.50;
- $\text{Na}_2\text{O}$ : 17.50 to 18.50;

- $K_2O$ : 0.6 to 1.5;
- $B_2O_3$ : 5 to 15;
- $P_2O_5$ : less than 0.1;
- $SO_3$ : less than 0.35;
- 5 -  $Fe_2O_3$ : higher than zero;
- Others: less than 2.

14. The composition as claimed in claim 5, characterized in that it comprises the following components expressed  
10 in percent by weight:

- $SiO_2$ : 61 to 66;
- $Al_2O_3$ : 1.6 to 1.8;
- $(CaO+MgO)$ : higher than 9;
- $(Na_2O+K_2O)$ : higher than or equal to 18.5 and  
15 lower than or equal to 23;
- $K_2O$ : 0.6 to 1.5;
- $B_2O_3$ : 5 to 15;
- $P_2O_5$ : less than 0.1;
- $SO_3$ : 0.1 to 0.25;
- 20 -  $Fe_2O_3$ : higher than 0;
- Others: less than 2.

15. The composition as claimed in claim 5, characterized in that it comprises the following components expressed  
25 in percent by weight:

- $SiO_2$ : 61 to 66;
- $Al_2O_3$ : 1.6 to 1.8;
- $(CaO+MgO)$ : higher than 9;
- $MgO$ : higher than 3;
- 30 -  $MgO$ : preferably higher than 3.50;
- $(Na_2O+K_2O)$ : higher than or equal to 18.5 and  
lower than or equal to 23;
- $K_2O$ : 0.6 to 1.5;
- $B_2O_3$ : 5 to 15;
- 35 -  $P_2O_5$ : less than 0.1;
- $SO_3$ : 0.1 to 0.25;

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- $\text{Fe}_2\text{O}_3$ : higher than 0;
- Others: less than 2.

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